

इंटरनेट

मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 12351 (1988): coupling ball for caravans and light-trailers [TED 22: Transport Tractors and Trailers]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

SPECIFICATION FOR
COUPLING BALL FOR CARAVANS AND LIGHT TRAILERS

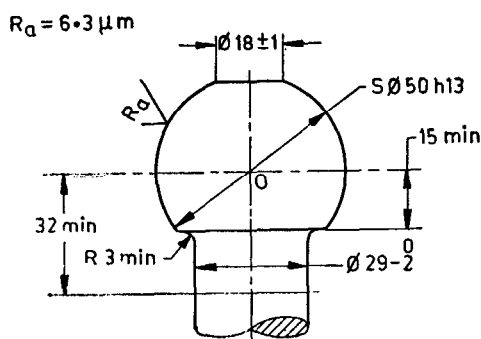
1. Scope — Lays down the dimensional characteristics necessary for the compatibility of mechanical coupling devices between light trailers, caravans and towing vehicles when the latter are fitted with a coupling ball.

1.1 This standard applies to a coupling ball designed for caravans and light trailers, the maximum total weight of which is less than or equal to 3.5 tonnes. It does not necessarily apply to special trailers drawn by special vehicles.

Note — The value 3.5 tonnes is chosen to include categories T_1 and T_2 of trailers according to the classification of vehicles given in IS : 11852 (Part 2) - 1987 'Recommendations for brakes and braking systems for automotive vehicles: Part 2 General functions and features'.

2. Dimensional Characteristics

2.1 Dimensions and Tolerances for Coupling Ball (see Fig. 1).



All dimensions in millimetres.

FIG. 1 DIMENSIONS AND TOLERANCES OF THE COUPLING BALL

2.1.1 The diameter of the spherical surface of the coupling ball is 50/^{h13} mm.

2.1.2 The surface referred to in 2.1.1 is a partial sphere, the upper portion of which terminates above the centre, *O*, of the sphere in a flat horizontal surface. The diameter of this surface is 18 ± 1 mm.

The lower portion of the sphere terminates at the intersection of the surface defined above and the horizontal plane located not less than 15 mm below point *O*.

2.1.3 The connecting radius between the ball and the neck shall be tangent both to the neck and to the lower horizontal surface as defined in 2.1.2.

2.1.4 The diameter of the neck of the ball shall be between 27 and 29 mm, down to a horizontal plane situated at not less than 32 mm below point *O*.

2.2 Marking — When coupling balls are manufactured to the requirements of this standard, the marking 'IS 50' shall be applied on the surface forming the upper limit of the zone defined in 2.1.2. This marking which only implies dimensional conformity, shall be complemented if necessary, by the marking indicated in 'Indian Standard Methods of strength test for towing brackets and coupling balls for trailers (under preparation)'.

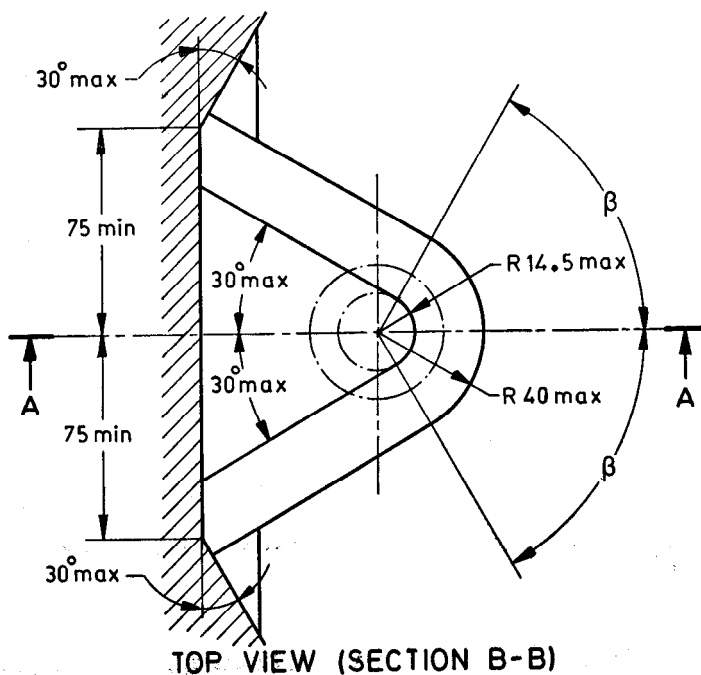
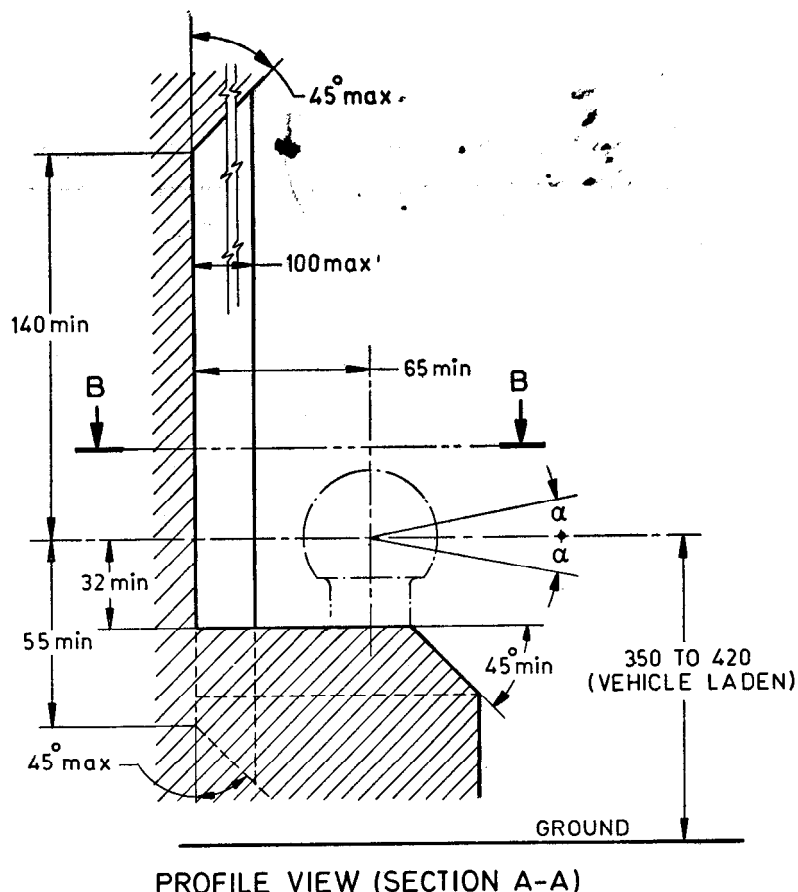
2.3 Installation Dimensions

2.3.1 The axis of the ball neck passes through the ball centre *O*, and shall be vertical down to a horizontal plane located not less than 32 mm below the point *O*.

2.3.2 The centre of the ball shall be located at a distance from the ground between 350 and 420 mm (vehicle laden)*.

2.3.3 Figure 2 defines the clearance space to be maintained around the coupling ball.

* By 'vehicle laden' is meant the maximum total weight set by the manufacturer, respecting the axle load distribution.



All dimensions in millimetres.

FIG. 2 CLEARANCE SPACE AROUND THE COUPLING BALL

Note — The clearance space defined in Fig. 2 is provided to allow normal coupling and uncoupling operations with angles $\alpha = 10^\circ \text{ Min}$, $\beta = 60^\circ \text{ Min}$, and free movement angles of the coupling head $\alpha = 25^\circ \text{ Min}$ and $\beta = 60^\circ \text{ Min}$ in the locked position.

EXPLANATORY NOTE

In the preparation of this standard, assistance has been derived from ISO 1103-1976 'Road vehicles — Caravans and light trailers couplings ball — Dimensional characteristics', issued by the International Organization for Standardization (ISO).